MULTIMEDIA UNIVERSITY

STUDENT ID NO

MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 3, 2018/2019

EEE 7316 – ENERGY POLICY, REGULATIONS AND STANDARDS

28 MAY 2019
9.00 A.M. to 12.00 P.M.
(3 Hours)

INSTRUCTIONS TO STUDENTS

1. This Question paper consists of 6 pages including cover page with 5 Questions only.
2. Answer ALL questions. The distributions of the marks for each question are as stated.
3. Please print all your answers in the Answer Booklet provided.

Question 1

(a) What are the most popular technologies under the Small Renewable Energy Power Programme (SREP)?

[4 Marks]

(b) Energy mix for Solar PV is to be increased to 20% from 2% by 2030. What is the rational for this policy?

[4 Marks]

(c) What are the typical range of power generated by mini-hydro and where is it normally constructed?

[2 Marks]

(d) Name five stakeholders in the energy policy-making process?

[5 Marks]

(e) Explain the rewards for new buildings (including refurbishment) that incorporate BIPV as part of the supporting measures that need to be implemented?

[5 Marks]

Continued...

Question 2

(a) Explain what *Energy Conservation* is.

[4 Marks]

(b) Industrial and commercial users of electricity improve the efficiency of their electrical distribution systems by reducing losses. Transformers losses can be broadly classified into 2 categories as 'no-load losses' and 'load losses'. List out the losses under these two categories.

[4 Marks]

(c) Referring to EEC guidelines on compressor, explain any four ways to reduce energy waste in the compressor system.

[5 Marks]

(d) List down four classes for high efficiency motors. What are the factors to be considered before an existing IE1 motor replaced to a high efficient motor?

[7 Marks]

Continued...

Question 3

Energy consumption data of four companies as measured at one metering point or more for each month in 2013 are given in Table Q3.

Table Q3

	Energy Consumption (in Million kWhr)											
Company	Jan.	Feb.	Mar.	Apr.	May	Jun.	July	Aug.	Sep.	Oct.	Nov.	Dec.
A	0.50	0.75	0.66	0.54	0.76	0.44	0.78	0.80	0.55	0.48	0.34	0.53
B	0.11	0.15	0.11	0.10	0.09	0.12	0.12	0.15	0.09	0.10	0.16	0.13
C	0.10	0.12	0.11	0.45	0.23	0.45	0.50	0.76	0.56	0.12	0.12	0.14
D	2.12	1.90	2.00	2.15	1.98	2.05	2.15	1.98	1.99	2.03	2.11	1.99

(a) Referring to Efficient Management of Electrical Energy Regulations 2008, identify companies which must be audited.

[3 Marks]

(b) State five tasks that each company identified in (a) must do as per requirement by the regulation.

[10 Marks]

(c) List down three responsibilities of Registered Electric Energy Manager appointed by companies identified in (a).

[5 Marks]

(d) What is the penalty for a company that commits an offence under the regulations?

[2 Marks]

Continued...

Question 4

(a) State three benefits of Sustainable or Green building?

[6 Marks]

(b) Explain what is Building Efficiency Index (BEI) and how do you determine BEI for a building.

[5 Marks]

(c) State three stages to attain the Green Building Index classification.

[3 Marks]

(d) What is Investment Tax Allowance provided by Malaysian Investment Development Authority (MIDA) to owners of buildings awarded with Green building Index (GBI)?

[3 Marks]

(e) A company obtained GBI assessment scores as tabulated in Table Q4. State the GBI rating for the company.

Table Q4

Part	Item	Maximum Points	Score
1	Energy Efficiency	35	25
2	Indoor Environmental Quality	21	15
3	Sustainable Site Planning & Management	16	12
4	Material & Resources	11	7
5	Water Efficiency	10	6
6	Innovation	7	2
	Total Score	100	67

[3 Marks]

Continued...

Question 5

(a) Based on MS 1525: 2007, state at least five factors to be considered for passive design of a building to provide a good internal environment.

[5 Marks]

(b) As specified in MS 1525:2014, power factor of motor shall be corrected at the duty point to not less than 0.85. Explain this statement.

[3 Marks]

(c) Briefly explain the six frameworks provided by MS ISO 50001, Energy Management System.

[9 Marks]

(d) State three standards of high efficient motors provided in IEC 60034-30: 2008.

[3 Marks]

End of the paper